CALIFORNIA
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COMMISSION

CALIFORNIA ENERGY DEMAND 2003 - 2013 FORECAST

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Introduction

This California Energy Commission staff draft report presents forecasts of electricity consumption, peak electricity demand, and natural gas demand for the State of California and for each utility planning area within the state. This is one of a number of draft reports that Energy Commission staff are preparing, under the direction of the Ad Hoc Integrated Energy Policy Report Committee, to support the development of the ***2003 Integrated Energy Policy Report.*** (IEPR).

The final forecasts of electricity consumption, peak electricity demand, and natural gas demand will serve as the baseline for analysis in the IEPR. They will also be made available to utilities, other State agencies, the California Independent System Operator (CAISO), and other interested parties for their use in analyzing demand trends in California. To support risk assessment in the IEPR, staff will also develop a limited number of demand scenarios encompassing variation in economic conditions, energy efficiency, distributed generation, and natural gas prices. After discussing the draft baseline forecast, this report discusses the proposed scenarios.

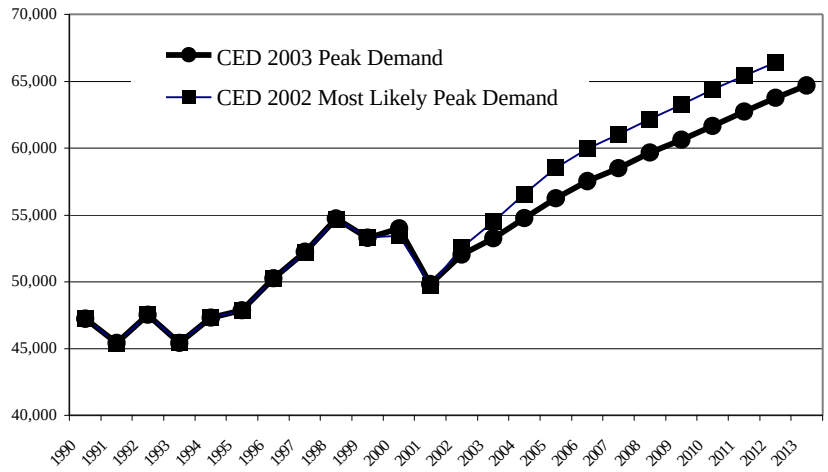
The Ad Hoc Integrated Energy Policy Report Committee will conduct a workshop on February 25-26, 2003, to receive public comments on this and several other staff draft reports. These reports and supporting tables will be posted on the Energy Commission website at: http://www.energy.ca.gov/energypolicy/index.html.

Summary

This forecast is lower than previous forecasts, due largely to lower economic projections and the lingering effects of the energy crisis. After the sharp decrease in 2001 of 3.8 percent, annual energy consumption is expected to grow at an average of 2.1 percent over the next ten years. The 2003 peak demand forecast, shown in **Figure 1,** is also projected to grow at about 2 percent, or about 1150 megawatts (MW) per year. This is a somewhat slower rate of growth than the California Energy Demand 2002 (CED 2002) peak demand forecast, which projected average annual growth of 2.2 percent per year.

This forecast assumes no savings from energy efficiency programs funded in 2003 or later. While programs funded by the Public Goods Charge are certain to continue for several years, the amount and allocation is less certain. This approach eliminates concern about double counting of energy savings when comparing proposed 2003 program savings with the Energy Commission forecast.

Figure 1
Noncoincident Statewide Peak Demand (MW)



Baseline Energy Demand Forecast

The demand forecast presented in this document is reported on a statewide and sector basis. It provides that information by traditional utility planning areas and also by transmission congestion zones established by CAISO. The estimates also include the impacts of committed energy efficiency programs that have been funded and implemented through 2002. These "committed" programs continue after 2002 with declining level of impacts. The demand forecast does not include the impacts of new program spending in 2003 or beyond, nor does it include any future effects of measures to increase demand responsiveness.

Electricity Consumption

Table 1 shows historical and forecast electricity consumption for major utilities for selected years. These data include loads served by private supply (self-generation or distributed generation), but do not include energy losses.

Over the forecast period, consumption is expected to grow at a slightly faster rate than the 1990s, but not as strong as 1980s growth. This is consistent with the underlying economic forecast projecting a slow recovery beginning in 2004. Over the short term (2001-2006) consumption is projected to grow at 2 percent per year, while over the next ten years (2003-2013) growth is expected to average 2.1 percent per year. **Figure 2** shows consumption by economic sector. The residential sector is projected to grow the fastest, at an average of 3 percent per year, while the commercial sector is projected to grow at 2 percent per year.

Table 1
Electricity Consumption by Utility Planning Area
(GWh)

	PG&E	SMUD	SCE	LADWP	SDG&E	BGP	OTH	DWR	TOTAL
1980	66,197	5,352	59,624	17,669	9,729	2,374	2,677	3,354	166,978
1990	86,806	8,358	81,673	21,971	14,798	2,951	3,310	8,171	228,039
2000	101,980	9,491	96,496	23,803	18,684	3,320	4,227	5,490	263,493
2001	98,748	9,334	90,506	23,265	17,908	3,275	4,230	6,349	253,614
2002	97,888	9,529	90,513	23,314	18,604	3,320	4,211	6,349	253,729
2006	108,133	10,437	101,173	25,202	20,758	3,536	4,600	6,349	280,188
2013	122,436	11,647	116,444	27,179	24,580	3,760	5,453	6,349	317,849
Annual Growth Rates (%)									
1980-1990	2.7	4.6	3.2	2.2	4.3	2.2	2.1	9.3	3.2
1990-2000	1.6	1.3	1.7	0.8	2.4	1.2	2.5	-3.9	1.5
2000-2001	-3.2	-1.7	-6.2	-2.3	-4.2	-1.4	0.1	15.6	-3.7
2001-2006	1.8	2.3	2.3	1.6	3.0	1.5	1.7	0.0	2.0
2006-2013	1.8	1.6	2.0	1.1	2.4	0.9	2.5	0.0	1.8

Figure 2
Electricity Consumption by Sector
(GWh)

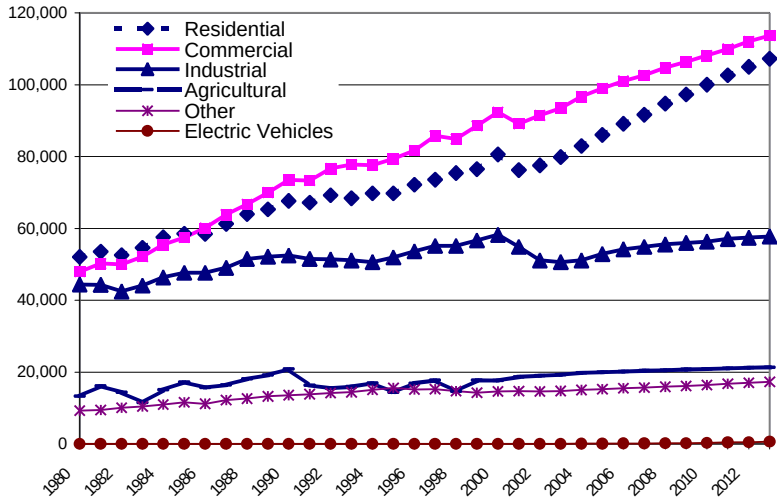
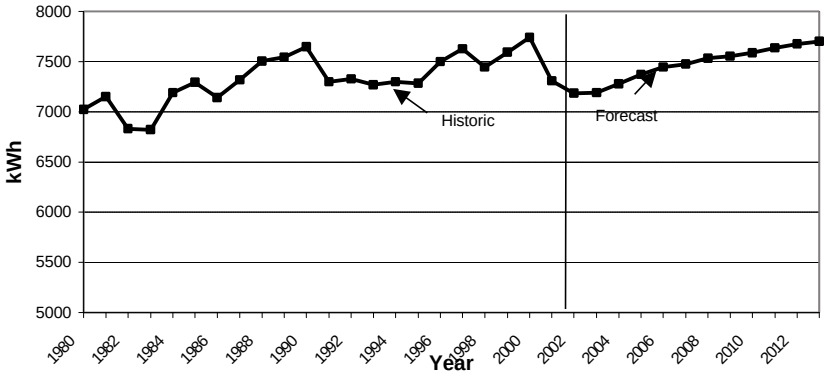


Figure 3 shows electricity consumption per capita. Through the 1990s per capita consumption was virtually constant, increasing by an average of only a 0.1 percent per year. After a decrease in 2001 and 2002 as a result of conservation efforts and weak economic conditions, per capita consumption will return to a steady increase. In the next decade, the population will increase 15 percent to almost 40 million, while the state's economy is expected to expand 32 percent in the same period. Electricity use will grow 23 percent, faster than the population but only at two-thirds the rate of the economy. This is driven by growth in personal income and diminished voluntary conservation. The growth rate of this rising demand has been mitigated by long-standing energy efficiency policies, so that even though more electricity is used, it is used more efficiently.

Figure 3
California Electricity Consumption
kWh per Capita 1980-2013



Private Supply

Electricity consumption needs that are met by self-generation or distributed generation reduce the demands on the grid. After several years of no growth, this privately supplied energy appears to be increasing. This is a result of the energy crisis, changes in the regulatory environment, and higher electricity rates, but it is not yet clear whether this more favorable environment will continue. To account for increases in private supply in the forecast, staff estimated peak load and consumption for 2002 and 2003 using data from Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E) on new interconnect activity in their territories. After 2003, privately supplied load is assumed to grow at one percent per year. This consevative estimate is used because of the uncertainty of the effect of regulatory policy such as exit fees on the economic attractiveness

of private supply. **Table 2** and **Table 3** show, respectively, the amount of energy and peak demand met by private supply assumed in the forecast.

Table 2
Private Supply (GWh)

Year	PG&E	SCE	LADWP	SDG&E	Total
2000	5,158	3,954	1,657	367	11,135
2001	5,196	3,422	1,690	358	10,667
2002	5,375	4,344	1,724	557	12,000
2003	5,506	4,459	1,724	648	12,337
2013	6,082	4,925	1,724	716	13,447
Annual Growth Rates (%)					
1990-2000	0.8	-13.4	2.0	-2.3	-4.2
2000-2001	3.4	26.9	2.0	55.4	12.5
2001-2002	2.4	2.6	0.0	16.4	2.8
2002-2003	1.0	1.0	0.0	1.0	0.9
2003-2013	0.8	-13.4	2.0	-2.3	-4.2

Table 3
Private Supply (MW)

Year	PG&E	SCE	LADWP	SDG&E	Total
2000	854	596	180	58	1,688
2001	858	601	209	38	1,706
2002	890	655	209	71	1,824
2003	912	672	209	74	1,867
2013	1,007	742	209	82	2,040
Annual Growth Rates (%)					
2000-2001	0.5	0.8	16.1	-34.5	1.1
2001-2002	3.7	9.0	0.0	85.8	6.9
2002-2003	2.4	2.6	0.0	4.7	2.3
2003-2013	1.0	1.0	0.0	1.0	0.9

Net Energy for Load

The electricity consumption data discussed above measured the amount of electricity customers used at their homes and businesses. Another measure of electricity use is the amount of electricity the grid must supply—net energy for load. Net energy for load includes electric losses and excludes loads served by private supply. Net energy for load is expected to grow at about two percent per year over the next decade. As **Table 4** shows, the most rapid growth occurs between 2004 and 2008, due to a projected decline in electricity prices and a projected improvement in economic conditions.

Table 4
Net Energy for Load (GWh)

	PG&E	SMUD	SCE	LADWP	SDG&E	Other	Total State
1990	90,764	8,893	83,694	23,782	15,348	27,902	250,383
2000	106,117	10,098	98,835	25,136	19,617	23,938	283,741
2001	102,532	9,931	93,006	24,487	18,794	25,703	274,453
2002	100,039	10,139	92,029	24,504	19,327	25,780	271,818
2006	113,476	11,105	103,147	26,647	21,515	26,692	302,583
2013	129,123	12,393	119,103	28,892	25,556	28,145	343,212
Annual Growth Rates (%)							
1990-2000	1.6	1.3	1.7	0.6	2.5	-1.5	1.3
2001-2006	2.0	2.3	2.1	1.7	2.7	0.8	2.0
2006-2013	1.9	1.6	2.1	1.2	2.5	0.8	1.8
2001-2013	1.9	1.9	2.1	1.4	2.6	0.8	1.9

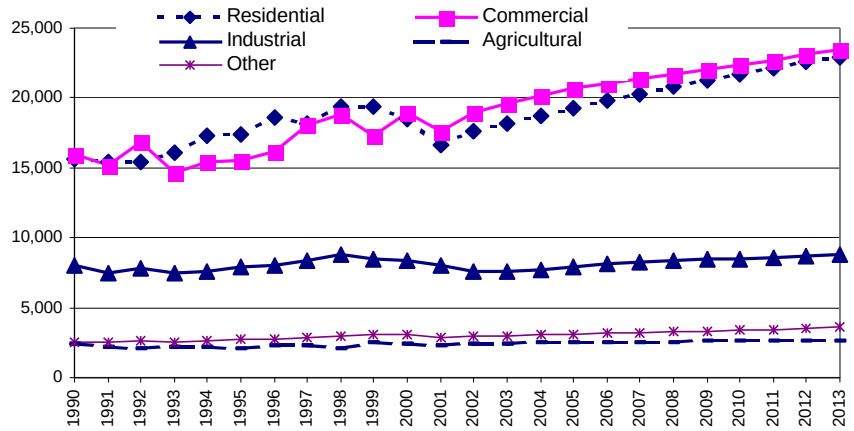
Peak Demand

Peak demand, expressed in megawatts (MW), measures the largest electric power requirement during a specified period of time, usually integrated over one clock hour. Peak demand is important in evaluating system reliability, determining congestion points on the electric grid, and identifying potential areas where additional transmission, distribution, and generation facilities may be needed. **Table 5** below shows historical and forecast electric net peak demand for major utilities and for selected years. The data shown in Table 5 include transmission losses and exclude loads served by self-generation.

Table 5
Peak Demand by Utility Planning Area
(MW)

	PG&E	SMUD	SCE	LADWP	SDG&E	BGP	OTH	DWR	TOTAL
1990	17,250	2,195	17,647	5,312	2,973	812	801	241	46,189
2000	20,628	2,688	19,757	5,344	3,476	825	1,023	250	52,718
2001	19,413	2,485	17,890	4,805	3,147	781	1,024	289	48,521
2002	20,484	2,779	18,105	4,910	3,567	854	1,029	289	50,700
2006	21,526	2,782	21,101	5,607	4,185	891	1,132	289	56,092
2013	24,253	3,051	24,065	5,898	4,855	920	1,354	289	63,042
Annual Growth Rates (%)									
1990-2000	1.8	2.0	1.1	0.1	1.6	0.2	2.5	0.4	1.3
2000-2001	-5.9	-7.6	-9.4	-10.1	-9.5	-5.4	0.1	15.7	-8.0
2001-2006	1.9	1.7	2.5	1.7	3.7	1.4	2.4	0.0	2.2
2006-2013	1.7	1.3	1.9	0.7	2.1	0.5	2.6	0.0	1.7

Figure 4
End Use Load by Sector (MW)



California's peak demand commonly occurs on a day in July or August between the hours of 3 and 5 P.M. High temperature leads to increased air conditioning use by residential and commercial customers. These increased air conditioning loads—in combination with industrial loads, commercial lighting and office equipment, and residential refrigerators—create the peak demand use in California.

California is too large to be thought of as a single climate. For analysis of summer peak, it is better split into north and south. Temperatures in the south peak later in the year (August or September), while the north peaks in July or early August. High loads are driven by a coincidence of high temperatures in both the north and south. **Figure 5** and **Figure 6** show the average temperatures and loads for the top twenty days in the CAISO area for 2002 and 1998 respectively. These figures show days with composite temperatures over 90 degrees in either the north or south. Composite temperatures are weighted by the saturation of residential air conditioning units in each forecast zone. The peaks in 1998 were much higher; temperatures were high in both the north and south. The summer of 1998 was the hottest of the last five summers in both the north and south.

Figure 5
2002 Maximum Temperatures and CAISO Top 20 Daily Peaks

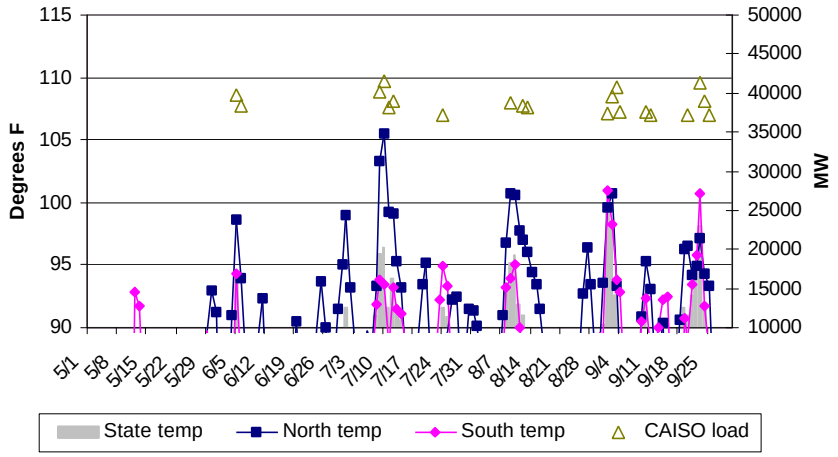
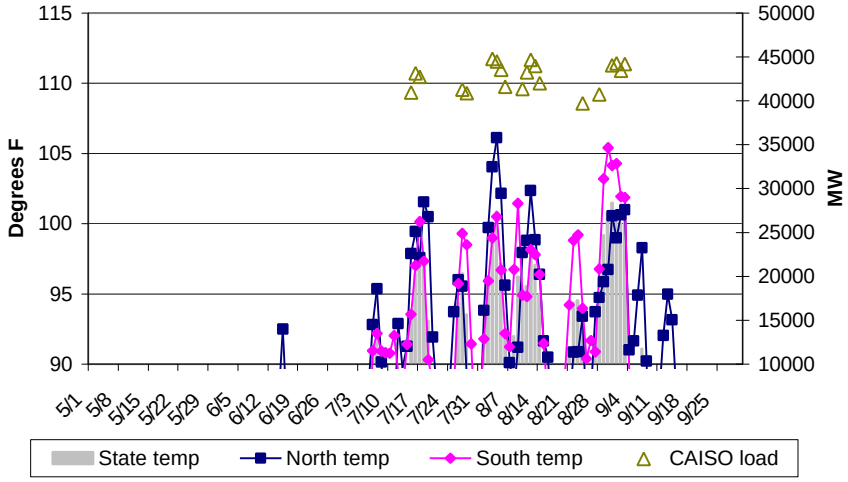


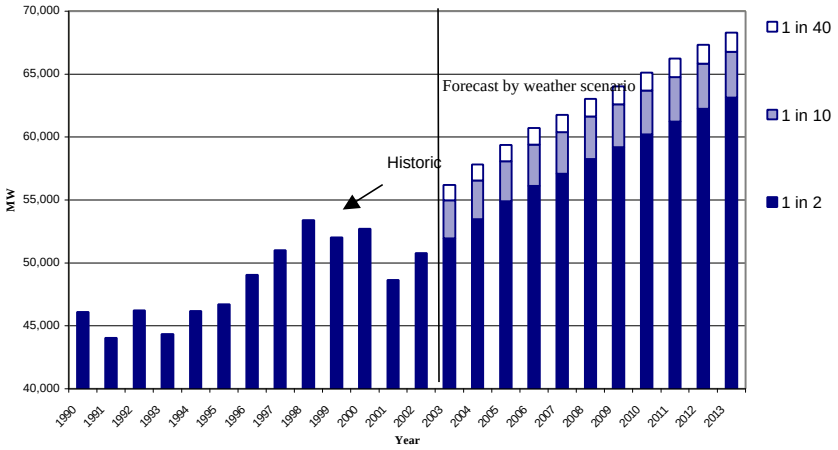
Figure 6
1998 Maximum Temperatures and CAISO Top 20 Daily Peaks



The baseline peak demand forecast is based on typical temperatures—temperatures that are expected to occur one out of every two years (one-in-two). To account for warmer than

average temperatures, temperature sensitivities for one-in-two, -ten, and -forty weather conditions are applied to the baseline peak demand forecast. The resulting peak demand weather scenarios are shown in **Figure 7**. In the one-in-ten scenario demand is increased by 5.8 percent, while in the one-in-forty scenario demand is increased by 8.2 percent.

Figure 7
Coincident Peak Demand (MW)
Normal and Hot Weather Scenarios



Peak Demand by ISO Zone

The CAISO control area is divided into geographic zones to aid in managing congestion. Congestion occurs on the grid when there is not enough transmission capacity to accommodate load, generation, or interchange requirements. The CAISO congestion zones are defined so that congestion within a zone is less frequent and less significant, while congestion across zones is frequent and significant.

CAISO operations use three active congestion zones: North of Path 15, South of Path 15 and Path 26. North of Path 15 is made up of the northern portion of the PG&E system, Sacramento Municipal Utility District (SMUD), Northern California Power Agency (NCPA), Modesto Irrigation District (MID), Turlock Irrigation District (TID), and the northern portion of the California Department of Water Resources (DWR) system. SCE, SDG&E, Pasadena, and the southern portion of the PG&E and DWR systems constitute the South of Path 15 zone. Path 26 is made up of the southern portion of the PG&E system (i.e., portions of Santa Barbara, San Luis Obispo, Kings, Tulare, and Kern counties that get electric service from PG&E).

Table 6 shows the noncoincident and coincident peak demand for each zone. More detailed data on peak demand and net energy for load by CAISO Zone may be found in Appendix D, described at the end of this report.

Table 6
Peak Demand by CAISO Zone

	Noncoincident Demand					Coincident Demand	
	North of Path 15	Path 26	South of Path 15	Total CAISO Demand	Total State	Total CAISO Demand	Total Statewide Demand
2000	18,788	1,901	23,713	47,090	53,991	45,962	52,699
2001	17,703	1,781	21,531	43,500	49,834	42,458	48,640
2002	18,661	1,893	22,193	42,747	52,018	41,723	50,773
2003	18,067	1,826	23,712	43,606	53,231	42,561	51,956
2013	22,090	2,233	29,464	53,787	64,686	52,499	63,137
Average Annual Growth (%)							
2001-2006	2.1	2.2	3.7	1.7	2.9	1.7	2.9
2006-2013	1.6	1.6	2.2	1.3	1.8	1.3	1.8

Natural Gas Consumption

Table 7 shows historical and forecast natural gas consumption for each major California natural gas utility service area—PG&E, SDG&E, and Southern California Gas (SCG). The data shown in Table 7 exclude natural gas used in the production of electricity.

End-use natural gas consumption dropped by 1.3 percent annually in the 1980s followed by an annual increase of 0.7 percent in the 1990s. Over the next ten years, natural gas use is expected to increase at a rate of 0.8 percent per year. This draft forecast will be revised soon using a new natural gas price forecast.

Table 7
Natural Gas Consumption by Utility Planning Area
(Millions of Therms)

Year	PG&E	SCG	SDG&E	Other	Total State
1990	5,192	8,249	678	95	14,214
2000	5,520	8,721	812	119	15,173
2006	5,473	8,716	1,012	124	15,325
2013	5,556	9,105	1,129	128	15,918
Average Annual Growth (%)					
1980-1990	-1.3	1.4	3.8	2.1	0.4
1990-2000	0.6	0.6	1.8	2.3	0.7
2003-2013	0.5	0.9	1.9	0.6	0.8

Forecast Inputs and Assumptions

Energy use is a function of several factors. These include demographic growth, economic growth, price trends, and changes in customer behavior. Population, income, employment, and prices are shown below. Population and income are key drivers for the residential and commercial sectors. Employment is a driver for the industrial and commercial sectors.

Energy Prices

Figure 8 shows average retail electricity rates for each planning area. After increasing in 2001 by 20 to 40 percent, investor-owned utility retail rates will stay high until 2004, when staff projects that bond costs will be paid off. Rates by publicly owned utilities stay relatively flat over the forecast period. The electricity price forecast used is discussed in more detail in *California Investor-Owned Utilities Retail Electricity Price Outlook 2003-2013*. (Publication #100-03-003SD)

Figure 8
System Average Electricity Rate Forecast
(2001 cents/kWh)

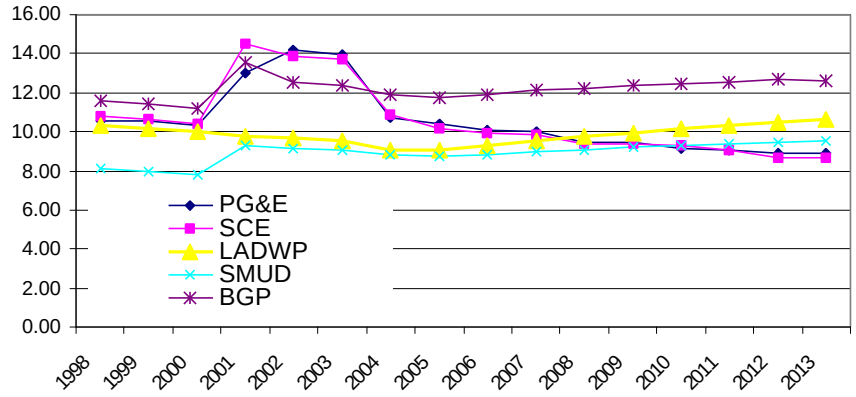
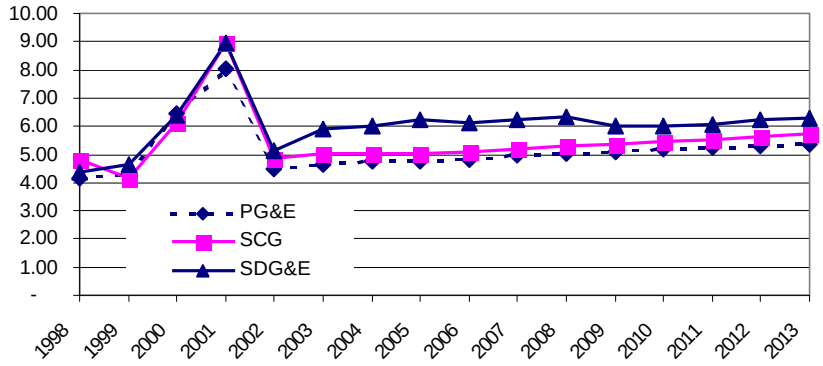


Figure 9 shows the draft retail natural gas price forecast used in the forecast. After declining by more than 40 percent in 2002, the price paid by end users is projected to increase by less than 2 percent per year for the remainder of the forecast.

Figure 9
System Average Natural Gas Price Forecast
(2001 $ per MCF)



Economic and Demographic Assumptions

Staff develops a forecast of households using the California Department of Finance population projections. As **Table 8** shows, the fastest growing areas are Sacramento and "Rest of State," which is predominately the Central Valley. The San Diego area is also expected to grow faster than the metropolitan areas of Los Angeles and San Francisco.

Table 8
Population
Average Annual Growth (%)

	Los Angeles Basin	San Francisco Bay Area	San Diego	Sacramento	Rest of State	Total State
1980-1990	2.3	1.5	2.9	3.0	2.6	2.3
1990-2001	1.1	1.1	1.1	1.8	1.4	1.2
2001-2006	1.4	1.3	1.9	2.2	2.2	1.6
2006-2013	1.3	0.9	1.3	1.7	1.9	1.3

Projections of personal income and employment are derived from the University of California at Los Angeles (UCLA) Anderson School of Business California forecast of September 2002. This forecast assumes that a recovery will begin in late 2003, followed by steady growth, but at a lower rate than previous recoveries. As **Table 9** shows, personal income grows faster in the latter-half of the forecast.

Table 9
Real Personal Income
Average Annual Growth (%)

	Los Angeles Basin	San Diego	San Francisco Bay Area	Sacramento	Rest of State	Total State
1980-1990	3.5	3.2	4.5	4.4	2.8	3.4
1990-2001	2.2	4.1	2.8	3.4	2.6	2.8
2001-2006	2.2	1.9	2.1	2.5	2.2	2.1
2006-2013	3.3	3.2	3.8	4.1	3.6	3.4

Weak job growth is a contributing factor to slow growth in energy demand. After three anemic years (2001-2003), employment, shown in **Table 10**, is expected to resume growing by more than two percent per year in 2004.

Table 10
Employment
Average Annual Growth (%)

	Los Angeles Basin	San Diego	San Francisco Bay Area	Sacramento	Rest of State	Total State
1980-1990	2.6	4.0	6.3	5.2	6.0	3.6
1990-2001	0.9	1.9	2.2	2.8	2.0	1.5
2001-2006	1.9	1.3	1.6	2.3	1.7	1.7
2006-2013	1.7	1.7	2.0	2.3	1.9	1.8

Energy Efficiency

This forecast includes the effects of committed energy efficiency programs that have been funded and implemented through 2002. These "committed" programs continue after 2002 with declining levels of impacts. **Table 11** below shows, for the three major utilities, the amount of energy savings from these programs that has been accounted for in the demand forecast.

This forecast does not include savings from energy efficiency programs from 2003 on. While it is certain that some level of energy efficiency program funding will continue, the amount will be affected by California Public Utilities Commission (CPUC) proceedings. The investor-owned utilities are expected to propose modifications to energy efficiency funding

as part of the CPUC procurement proceeding. Because no 2003 savings are in the baseline, any funding and program proposals for 2003 and following will be incremental to this forecast.

Table 11
Energy Efficiency Adjustments to the Forecast
GWh

	PG&E	SCE	SDG&E
2002	876	761	254
2003	842	760	253
2004	811	759	251
2005	785	757	247
2006	759	754	243
2007	731	749	237
2008	696	741	231
2009	645	726	223
2010	571	700	213
2011	478	656	199
2012	383	597	180
2013	305	531	161

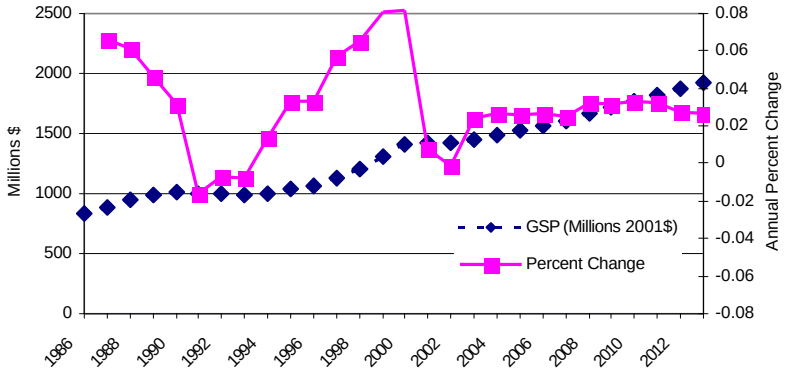
The crisis of the summer of 2001 led to a dramatic drop in consumption and peak, both from investments in energy efficiency and through voluntary conservation (i.e., not running air conditioners as much). While savings from investments will largely persist, the voluntary conservation effect may degrade much more rapidly. Because the Energy Commission's forecasting models are calibrated to the long run historical trend, staff's assessment is that this forecast is generally consistent with the amount of rebound we are seeing to date.

Scenarios for the IERP

The draft forecast proposed here is a baseline. Staff is proposing to develop demand scenarios to address variation in economic conditions, investments in energy efficiency, and natural gas prices. A low demand scenario will reflect a low economic forecast combined with increased energy efficiency and private supply. A high demand scenario will incorporate stronger economic growth, diminished efficiency and conservation (a greater rebound from 2001 voluntary conservation levels), and declining private supply.

Long run forecasts of economic conditions typically will not capture variation in economic indicators due to the business cycle. In this forecast, that effect may be amplified. The national economic forecast underlying this demand forecast assumes that during the upcoming late recovery growth averages 4 percent compared to a typical late recovery period of 6 percent. To illustrate, **Figure 10** shows historic and forecast gross state product since 1986. The annual growth rate of the forecast is much more stable than what California has experienced over the last two decades. It is plausible that at some point in the forecast period California could experience several years of either sustained growth or declines significantly different from the forecast. The economic components of the high and low scenarios will be designed to capture this possibility.

Figure 10
Gross State Product
(2001 $)



The amount of 2003 and future year energy efficiency funding will likely be addressed in the CPUC Procurement Proceeding (R0110024). Depending on the timing and amount of information available, staff may use the investor-owned utilities' procurement plans as a starting point for assumptions about high and low energy efficiency savings.

Finally, staff in the Natural Gas Unit will develop high and low gas price forecasts to be used in combination with the economic scenarios.

Basic Definitions and Model Documentation

In analyzing energy consumption patterns, the utility remains the basic unit of analysis for this forecast. It is the local utility that provides the bulk of energy service components to consumers and collects data from them. Within each utility, residential and commercial energy consumption patterns, which account for approximately two-thirds of all energy use, are influenced by weather within the various climate zones. Therefore, these two sectors are modeled by climate zone and the results aggregated to the utility service planning area.

Annual consumption data are reported by eight electric planning areas and four natural gas distribution regions, as shown in **Table 12**. The geographic regions include the traditional areas served by each utility, and in some cases, extend to include municipalities and irrigation districts that are not served directly by the larger investor-owned utility. For example, the PG&E electric planning area includes the cities of Redding and Santa Clara, the NCPA, and the irrigation districts of Modesto and Turlock. The SCE planning area includes the cities of Anaheim, Anza, Azusa, Banning, Colton, Riverside, Vernon and the Metropolitan and Southern California Water Districts. For the purposes of this report, a planning area denotes a geographic region of an electric investor-owned utility in which there resides municipal utilities and/or irrigation districts. An electric service area denotes a geographic area for which a single utility provides electric distribution services. Natural gas service territories include municipal gas utilities.

Table 12
Geographic Consumption Areas

Electricity Planning/Service Areas	Natural Gas Service Territories
Pacific Gas and Electric (PG&E)	Pacific Gas and Electric (PG&E)
Sacramento Municipal Utility District (SMUD)	
Southern California Edison (SCE)	Southern California Gas (SCG)
Los Angeles Department of Water and Power (LADWP)	
Cities of Burbank, Glendale, and Pasadena (BG&P)	
San Diego Gas and Electric (SDG&E)	San Diego Gas and Electric (SDG&E)
Other Planning Area (Other)	Other Gas Territory (Other)
Department of Water Resources (DWR)	

The Other planning area accounts for demand centers located in counties adjacent to the California-Oregon border, Mount Shasta, Lake Tahoe, and a portion of the Mojave Desert. Electric utility distribution companies serving these regions include Imperial Irrigation District, Pacific Power and Light, Sierra Pacific Power, and the Surprise Valley Cooperative. Gas utilities in this category include Washington Water and Power in the north and Southwest Gas Corporation in the south.

The forecasts in this forecast were prepared using end-use forecasting models developed at the Energy Commission, with the exception of the industrial sector, for which the staff used the Industrial End-use Forecasting Model (INFORM) originally developed by the Electric Power Research Institute (EPRI). The staff also used EPRI's Hourly Electric Load Model (HELM) to determine peak electricity demand. Each model develops a forecast using a complex series of calculations that simultaneously considers economic factors, population, weather characteristics, changes in energy utilization, regulatory conditions, and recorded consumption. Detailed descriptions of the models used by the staff, with the exception of the industrial sector, are contained in *California Energy Demand: 1995-2015, Volume II Electricity Demand Forecasting Models*, July 1995, Publication Number P300-95-005. For a description of the industrial sector forecast methodologies, refer to EPRI's INFORM documentation.

Appendices

More detailed forecast results will be published in the following appendices, posted at http://www.energy.ca.gov/energypolicy/index.html

Appendix A: Electricity Consumption By Sector
This appendix provides recorded and forecast electricity consumption by sector and by utility.

Appendix B: Net Energy For Load
This appendix provides recorded and forecast net energy for load by utility.

Appendix C: Peak Demand By Sector
This appendix provides recorded and forecast peak demand by sector and by utility.

Appendix D: System Peak Demand
This appendix provides recorded and forecast system peak demand by utility and by CAISO congestion zones.